

## ORIGINAL ARTICLE

# Maintaining patient access to GUM clinics: is it compatible with appointments?

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**Objectives:** To determine whether a planned change from a walk-in service to a system in which 35% of appointments were prebooked and 65% obtained on the day, preserved access to the service for patients with, or at risk of, STIs. To describe patients' attitudes and behaviours in relation to accessing the clinic, and relate these to disease status and other epidemiological factors. To evaluate the effect of the change on clinical outcomes. To develop a tool for evaluating access to services.

**Method:** A natural experiment was studied, in which a cohort of patients attending just before the change in appointments policy (phase 1) was compared with a cohort following the change (phase 2). A questionnaire was administered to all new patients, and linked to disaggregated epidemiological and demographic data and case notes.

**Results:** The age, ethnic, symptom status, and disease mix of the clinic did not change significantly, and more patients were seen in phase 2. Time from telephoning to being seen did not change. Under 25s and Afro-Caribbeans used prebooked appointments less than others. Partner notification improved and HIV testing rates increased, while staff preferred the new system.

**Conclusion:** This specific appointment system in a GUM clinic preserved access for high risk groups. However, this may not generalise to systems with a higher proportion of prebooked appointments.

Access to genitourinary medicine (GUM) clinics is currently a source of concern in the United Kingdom,<sup>1–4</sup> at a time when diagnoses of most STIs are rising.<sup>5</sup> In response to increased pressure of work many clinics have switched from their traditional walk-in services. By mid-2000 only 7% of all clinics were walk-in only, while 29% offered booked appointments only, and waiting times of up to 28 days were reported.<sup>6</sup> However, the effects on access of switching from a walk-in service to one that includes appointments remain unquantified. Although it has been suggested that alternative service models, such as triage or nurse led clinics,<sup>7</sup> may improve access, there is as yet limited evidence on this issue.<sup>8</sup>

Epidemiologists increasingly emphasise the importance of reducing duration of infection in STI control.<sup>9–10</sup> Achieving this requires that patients can access services quickly, and that asymptomatic partners are reached through partner notification. It is therefore important that large scale changes in service configuration, such as those involving the appointment

system used by an open access service such as GUM, are properly evaluated.<sup>11</sup> In this study, we evaluate the effect of such a change.

## METHODS

### Population studied

This study took place in an outer London GUM clinic, which sees approximately 16 000 patients a year, 2% of all UK gonorrhoea, and in which 27% of all attenders are of white UK ethnicity. All new patients attending the GUM service during the two study periods were asked to complete a self completion questionnaire, and computerised clinic data for all patients were entered into the analysis. Patients who had ever had an HIV diagnosis recorded at the clinic accessed a different service within the clinic, and were not included.

All categories of staff working at the clinic during phase 2 received a questionnaire asking their views on the two access systems.

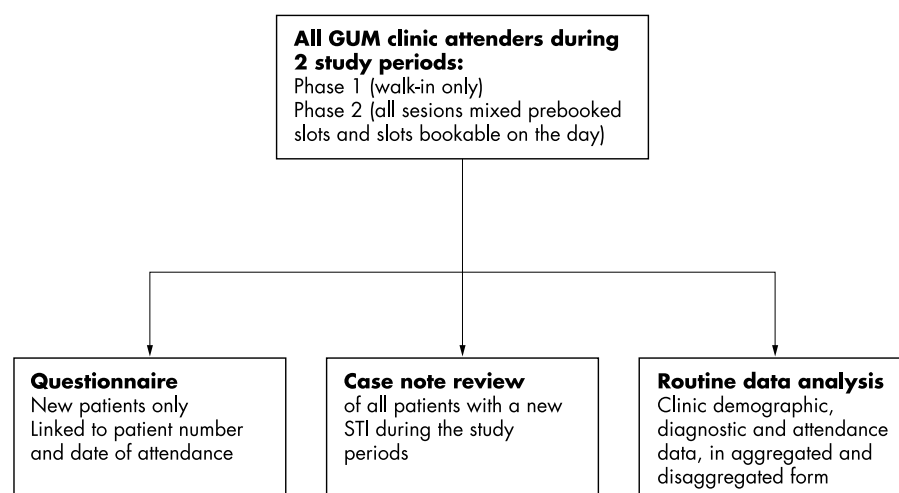


Figure 1 Overview of method.

**Table 1** Comparison of patient population and of clinical outcomes between phase 1 and phase 2

	Phase 1 (n=836)	Phase 2 (n=1514)	p Value of test for difference*
	No (%)	No (%)	
<b>Patient characteristics:</b>			
All patients attending for a new problem	836	1514	
Patients new to the clinic	384 (45.9)	700 (46.2)	0.89
Mean age (SD)	30.9 (10.8)	30.9 (10.8)	0.87†
Male sex	360 (43.1)	717 (47.4)	0.045
Self reported ethnic group			
White	217 (27.2)	317 (27.4)	
Afro-Caribbean	325 (40.8)	493 (42.5)	
African	85 (10.7)	98 (8.5)	
Asian	48 (6.0)	84 (7.3)	
Oriental	2 (0.3)	5 (0.4)	
Middle Eastern	5 (0.6)	11 (1.0)	
Other	115 (14.4)	151 (13.0)	
Missing data	39 (4.7)	355 (23.4)	0.47
Diagnosed with an STI this episode			
All	197 (23.6)	397 (26.2)	0.16
Male	114 (31.7)	270 (37.7)	0.05
Female	83 (17.4)	127 (15.9)	0.49
Gonorrhoea			
Male	15 (4.2)	51 (7.1)	0.06
Female	15 (3.2)	26 (3.3)	0.91
Chlamydia			
Male	22 (6.1)	70 (9.8)	0.04
Female	33 (6.9)	43 (5.4)	0.26
Genital warts			
Male	17 (4.7)	32 (4.5)	0.85
Female	14 (2.9)	26 (3.3)	0.75
Non-specific urethritis‡			
Male	64 (17.8)	135 (18.8)	0.68
Primary genital herpes			
Male	3 (0.8)	11 (1.5)	0.34
Female	7 (1.5)	15 (1.9)	0.59
<i>Trichomonas vaginalis</i>			
Female	26 (5.5)	26 (3.3)	0.06
<b>Clinical outcomes:</b>			
HIV test taken (percentage, for new patients only)	(n=384) 119 (31.0)	(n=700) 261 (37.3)	0.04
Partner notification achieved (percentage of those required)§	(n=111) 49 (44.2)	(n=196) 104 (53.1)	0.13
Median days since first ringing clinic for walk-in or slot on day only¶	(n=60) 1	(n=93) 1	
Median duration of symptoms, patients with STI only¶	(n=80) 7	(n=189) 7	

\* $\chi^2$  test for association unless otherwise stated.

†t test.

‡This did not include patients who tested positive for *Chlamydia trachomatis*.

§Partner notification was considered to be required for patients with chlamydia, gonorrhoea, syphilis, trichomonas, non-specific urethritis, or pelvic inflammatory disease, ascertained by notes review. Those who attended as sole contacts and had no further contacts are not included.

¶Denominators derived from a subset of patients new to the clinic who completed a questionnaire.

**Access policies before and after the change**

Until the end of March 2001, the clinic operated a wholly walk-in service, in which all patients arriving before the end of a clinic session could wait to be seen. No triage or selection operated, and waiting times varied up to approximately 3 hours.

After 1 April 2001, all clinic sessions consisted of approximately 35% prebooked appointments, and 65% slots bookable only on the day of attendance. This ratio was chosen to ensure that the number of same day slots would exceed the number previously used by new patients or patients with a new problem, thus allowing for at least the same number of people with an acute problem to have same day access, through a numbers limited walk-in service. Same day slots could be booked in person only, in order to ensure full usage, and maximise use by patients highly motivated by acute problems. Nurse triage was offered to attenders who could not be allocated an appointment on the day and wished to be seen

immediately, and the triage policy required that young people (under 17), those with symptoms suggesting an acute STI, sexual assault cases, and those with a contact slip should be seen during the current session. Interviews with reception staff revealed that when the day's slots were full, they advised patients with "tips" on how to be sure of getting one of the next day's slots, and that this may have reduced demand for triage.

Phase 1 of the study was the calendar month immediately preceding the change, and phase 2 was an 8 week period beginning 10 weeks after the change. Neither period included a prolonged holiday weekend closure. No other relevant significant change took place in the clinic during this entire period.

**Study design and data collection**

Figure 1 gives an overview of the study design. All patients attending the clinic during phase 1 and phase 2 were asked to

**Table 2** Comparison of survey respondents with non-responders

	Non-responders (n=333)	Survey respondents (n=751)	p Value for difference*
	No (%)	No (%)	
Male sex	198 (59.6)	341 (45.4)	<0.001
Mean age (SD)†	33.7 (14.4)	29.7 (9.7)	<0.001
Self reported ethnic group			
White	76 (22.9)	197 (26.2)	
Afro-Caribbean	68 (20.5)	134 (17.8)	
African	20 (6.0)	58 (7.7)	
Asian	32 (9.6)	38 (5.1)	
Oriental	0	0	
Middle Eastern	2 (0.6)	4 (0.5)	
Other	38 (11.5)	82 (10.9)	
Not known	96 (28.9)	239 (31.8)	0.08
Homosexual orientation (males)	5 (2.5)	11 (3.2)	0.64
Acute STI diagnosed this episode	83 (25.0)	222 (29.5%)	0.13

\* $\chi^2$  test for association unless stated otherwise.

†67 questionnaires could not be linked to patient identities, and are excluded from this comparison.

‡t test.

complete a two page questionnaire (see Appendices 1 and 2 on STI website) which was given to them by reception staff and collected in a closed box. This explored health seeking behaviour, use of other services, sources of information about the clinic, preferences and use of appointment types, and likely actions had they not been able to access services on that day. The questionnaire was labelled with the date and patient number. An information sheet explained that responses would be linked to clinic data. Brent medical ethics committee approved the study. Numerical data were double entered onto a database, and anomalies resolved by checking against the original.

Clinical computerised data, including age, ethnic group, present and past STIs were downloaded in disaggregated form, into a single database. This was used to construct variables relating to past and present attendances, and a variable indicating diagnosis of an acute STI during the relevant study period. The latter was used to select case notes for individual review. Routine computerised quarterly surveillance data for the clinic were also collected, measuring the number of episodes (attendances for a new problem, and overall attendances).

Case note review was undertaken by a single reviewer (JC) in order to ascertain symptom status, the success or failure of partner notification as judged by clinic staff, and the achievement or non-achievement of follow up. Partner notification was assumed to be required only for bacterial STIs including pelvic inflammatory disease and epididymo-orchitis. Successful partner notification was defined as the attendance and treatment of at least one partner to the documented satisfaction of the health adviser or clinician seen on follow up attendance.

The clinical, questionnaire, and case note review data were merged after their completion, in order to allow linkage of questionnaire responses to clinical history. Data were also collected on attitudes to and use of primary care, symptom duration, and views on the need for treatment. These results are not presented here.

### Statistical analysis

The  $\chi^2$  test, and, where appropriate, the *t* test for difference between means, were used to make comparisons between the following groups: phase 1 *v* phase 2 attenders and clinical outcomes; new patients using slots available on the day *v* new patients using prebooked appointments; preference for prebooked appointment or walk-in by phase and by patient characteristics; characteristics of responders *v* non-responders.

### RESULTS

The overall clinic population did not change between phases 1 and 2. Table 1 shows that the proportion of patients with any STI and with specific STIs, mean age, and proportion of new patients did not change between phases. The ethnic profile of the population was also unchanged, as was the proportion of patients who were attending with a new problem to all attendances including follow ups (53.1% in phase 1, 53.7% in phase 2). However, the proportion of men increased slightly in phase 2, just reaching statistical significance. Total attendances in phase 2, compared to the same quarter of the preceding year, increased from 3610 to 3966, while the mean number of attendances by patients with a new problem was 38.0 per day in phase 1 and 37.9 per day in phase 2. The median time from first contacting the clinic to being seen was 1 day in both phases, for walk-in patients and patients using a slot available only on the day.

There was some evidence of improved clinic outcomes in phase 2, with a higher uptake of HIV testing among new patients ( $p=0.04$ ), and a trend towards higher partner notification rates for acute bacterial STIs (table 1).

The questionnaire was completed by 700 (69.4%) of 1084 new patients, with no difference in the response rate between phases. Respondents were slightly older, and less likely to be male or of Afro-Caribbean ethnicity than non-responders (table 2). Preferences are summarised in table 3. The majority of patients preferred a walk-in service. This preference weakened but remained in phase 2, and was most pronounced in patients attending because of symptoms, males, and patients under 25.

The use of appointment slots by new patients is analysed in table 4. Data on appointment type are missing for some dates in phase 2, owing to accidental destruction of clinic records. Only new patients are analysed, since new patients' access to clinics is of particular concern, and the questionnaire was administered only to new patients. Patients under 25 years and non-white patients were less likely to use prebooked appointments. However, this was not explained by symptom status, since the proportion of patients attending because of symptoms was similar between the two groups. The proportion of patients diagnosed with an STI did not differ between appointment and non-appointment users.

All staff working in the clinic just after phase 2 completed the staff questionnaire, and 11/12 (91.6%) staff who had experienced both phases of the study preferred the new access policy. The most commonly cited reason was a more even workload, followed by a view that patient care was better in the new system.

**Table 3** Patients' reported preference for walk-in rather than prebooked appointment, by risk group and phase, among new patients completing questionnaire\*

Proportion of patients stating that they preferred walk-in to appointment	Phase 1 (n=307)			Phase 2 (n=525)			p Value for difference†
	(%)	Base No	(Missing)	(%)	Base No	(Missing)	
All patients stating a preference	77.2	295	12	50.6	362	163	<0.001
Male	80.8	125		49.4	233		<0.001
Female	76.2	164	18	52.5	265	26	<0.001
Ethnic group							
White	76.4	106		49.0	100		<0.001
Afro-Caribbean	76.0	75		57.3	82		0.005
African	88.6	35		45.8	24		0.001
Asian	90.0	20		64.0	25		0.046
Oriental	0	0		0	0		NA
Middle Eastern	0	0		25	4		NA
Other	77.1	48	23	40.0	35	254	0.003
Age <25 years	81.1	106	13	53.3	182	27	<0.001
STI diagnosed this attendance	72.4	76	18	49.0	147	29	<0.001
Symptoms main reason for attending	81.8	126	61	59.6	213	79	<0.001

\*This analysis is based on 832 questionnaire responses, of which 792 (95.2%) could be linked to clinic data for demographic and clinical variables.

† $\chi^2$  test for association.

## DISCUSSION

The natural experiment observed in this study took place against the background of increasing numbers of STIs diagnosed in the United Kingdom in recent years. This busy outer London clinic, which previously saw all patients arriving during clinic opening hours, was finding it difficult to cope with increasing numbers of walk-in patients. There were problems of variable patient flow across the day, long waiting times, aggression among patients, and high levels of stress for staff. As a result, it was decided to switch to the limited appointment system we have described.

The design of this study assumes that walk-in clinics, the traditional access system for GUM clinics, provide optimal access to patients, and this is the benchmark against which the phase 2 results are compared. The majority of clinics in the

United Kingdom are no longer primarily walk-in, and there is currently a lack of evidence for the effect of recent changes in patient access policies. Nevertheless, in the absence of other evidence an appointments system should demonstrate equivalence of access with a walk-in service. Our results demonstrate that overall equivalence of access to a walk-in service can be preserved while using 35% of prebooked appointments, without loss of at-risk patients or minority ethnic groups.

HIV testing rates and partner notification rates improved in phase 2, probably as a result of the smoother workload allowing better allocation of time on the basis of clinical need. A staff questionnaire suggested that all groups of clinical staff felt they were providing better care to patients in phase 2.

However, young patients, Afro-Caribbeans, and Asians relatively underutilised appointments, while expressing strong

**Table 4** Comparison between new patients using prebooked appointment and slot taken on the day, phase 2‡

	Prebooked appointment			Slot booked on the day			p Value of test for difference*
	(%)	Base No	(Missing)	(%)	Base No	(Missing)	
All new patients (n=481)‡	37.6	181	na	62.4	300	na	na
Mean age (SD)	30.1 (8.4)	168	13	29.5 (9.8)	284	16	0.51†
Age <25 years	29.8	168	13	43	284	16	0.005
Male	52.4	88		43.2	123		
Female	47.6	80	13	56.8	162	15	0.06
Self reported ethnic group							
White	46.7	92	89	32.6	144	156	
Afro-Caribbean	17.4			36.1			
African	12			6.9			
Asian	6.5			9.7			
Oriental	0			0			
Middle Eastern	2.2			1.4			
Other	15.2			13.2			0.03
Main reason for attending							
Symptoms	39.2	148	33	38.7	270	30	0.74
STI diagnosed this attendance							
Male	47.7	88	0	39.3	122	1	0.23
Female	19	79	1	21.6	162	0	0.64
Gonorrhoea							
Male	6.8	88	0	4.9	122	1	0.56
Female	0	79	1	3.7	162	0	0.08
Chlamydia							
Male	13.6	88	0	11.5	122	1	0.64
Female	5.1	79	1	5.6	162	0	0.87
Non-specific urethritis							
Male	20.5	88	1	12.3	122	1	0.88

\* $\chi^2$  unless otherwise stated.

†t test.

‡Appointment type is known for only 481 (68.7%) of all new patients in phase 2 due to accidental record loss for some days in phase 2. The analysis is restricted to those for whom it is known.

preferences for a walk-in system. This a matter of concern, and suggests that while our phase 2 mix of prebooked and "on the day" slots may preserve access, there is a risk that a further move toward appointments would be expected to disadvantage these groups, who may be at increased risk of STIs.<sup>12 13</sup> Preference for a walk-in service decreased from over three quarters to half of new patients in phase 2, when appointments became available for the first time. It is possible that not all patients in phase 2 were aware that prebooked appointments were available.

Our study was located in an ethnically mixed, socially deprived district where access to STI services appears to be good (as measured by the short median time from contacting the clinic to being seen). Our results should not be assumed to generalise to all mixed walk-in/appointment systems, particularly where there is a smaller proportion of slots available on the day.

The survey was limited to patients new to the clinic. As a consequence, we lack behavioural and attitude data on patients who had previously attended, and may be a high risk group whose health seeking behaviour should be studied in future work. We also do not have accurate data on the number of patients turned away, and whether they were seen the next day, nor do we have data on the number of patients triaged. This would be useful information, and will be collected in any follow up of this study.

Two other clinics are currently using this methodology to study the effects of changing from walk-in to different forms of appointment system, and this will provide useful empirical data for clinicians planning to change services. If an evidence base can be built up on the effects of running different kinds of appointment in the specific context of GUM services, it should be possible in future to make evidence based decisions on access structures, with a view to maximising access for those most at risk. Given the small numbers of walk-in clinics remaining, it is important that opportunities to evaluate the move towards appointment based services are taken quickly. Other changes in access policy should also be evaluated, and it is hoped that the methodology we have described will provide a useful, comparable tool for assessing a variety of changes in the access structures of sexual health services.

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Two appendices can be seen on the STI website

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